

Oracle WebLogic Server 14c: Administration II

Duration: 5 Days

Course Outlines:

1 Course Introduction

- Course Objectives
- Target Audience
- Course Prerequisites
- Introductions and Setting Expectations
- Course Schedule
- Course Practices
- For More Information
- Related Training

2 WebLogic Server Review

- Objectives
- Agenda
- Oracle WebLogic Server: Overview
- WebLogic Server Domain
- Administration Server
- Managed Servers
- Machines and Clusters
- WebLogic Server Application Services
- WebLogic Server Application: Example
- Agenda
- Start Scripts
- Node Manager
- WebLogic Tools: Administration Console
- WebLogic Tools: WebLogic Scripting Tool (WLST)
- Deployment

3 Upgrading WebLogic Server

- Objectives
- Agenda
- Definition of Upgrade
- Patch
- Minor Upgrade
- Major Upgrade
- What Is a Rolling Upgrade?
- Multiple Installation and Domain Locations
- Leverage WebLogic Clusters to Avoid Down Time
- Rolling Upgrade Process: Overview
- Backup
- Shutdown
- Upgrade
- Restart
- Practice 3-1 Overview: Setting Up the Course Practice Environment
- Practice 3-2 Overview: Performing a Rolling Upgrade

4 Creating and Using Domain Templates

- Objectives
- Agenda
- Domain Template Review
- Template Contents
- Template Exclusions

- Script Replacement Variables
- Extension Template: Concepts
- Fusion Middleware (FMW) Templates
- Why Use Custom Templates
- Template Builder
- Selecting the Template Domain Source
- Review Configuration and Create Template
- SQL Scripts and LDAP Data
- Creating an Extension Template
- Using a Custom Template with the Configuration Wizard
- Post Domain Creation Tasks
- Using a Custom Extension Template with the Configuration Wizard
- Practice 4-1 Overview: Creating and Using a Custom Domain Template

5 WebLogic Server Startup and Crash Recovery

- Node Manager Architecture
- Node Manager Default Behavior
- Configure Java-Based Node Manager
- Starting the Node Manager at System Startup
- Configuring the Node Manager as a Windows Service
- Configuring the Node Manager on UNIX Systems
- Primer on Linux systemd and systemctl
- Example NodeManager Service Unit File
- Control and Check Service Status
- Configuring NodeManager with systemd
- Configuring the Node Manager as an inetd Service
- Registering and Managing inetd Services
- Configuring the Node Manager as an xinetd Service
- How the Node Manager Restarts an Administration Server
- How the Node Manager Restarts a Managed Server
- RestartInterval and RestartMax
- Crash Recovery
- CrashRecoveryEnabled
- Practice 5-1 Overview: WebLogic Server Startup and Crash Recovery
- Solaris-Specific Configuration
- Solaris
- Example SMF Manifest File
- Set Up and Start Node Manager with SMF

6 WebLogic Scripting Tool (WLST)

- Objectives
- Agenda
- WebLogic Scripting Tool (WLST)
- Jython
- Using Jython
- Variable Declaration
- Conditional Expressions
- Loop Expressions
- I/O Commands
- Exception Handling
- WLST Modes
- WLST Example
- Running WLST Scripts

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COURSE OUTLINE

- WLST Development Tools
- configToScript()
- Script Recording Using the Administration Console
- Oracle Enterprise Pack for Eclipse
- WLST Command Tips
- General WLST Commands
- Offline WLST Commands
- Online WLST Commands
- WebLogic JMX Overview
- Configuration MBeans
- Runtime MBeans
- WebLogic Server MBean Examples
- MBean Properties in the Administration Console
- Browsing MBean Documentation
- Referencing MBeans in WLST
- Creating a Domain Using a Standard Template
- Creating a Domain Using a Custom Template
- Connecting to a Server
- Password Management
- WLST Variables
- Password Management
- Configuring a Server
- Monitoring a Server
- Adding a Server to a Cluster
- Creating a Data Source
- Monitoring a Data Source
- Creating an LDAP Authentication Provider
- Modifying a Domain Offline
- Deploying an Application
- Creating a Dynamic Cluster
- Scaling Up a Dynamic Cluster
- Dynamic Cluster Scaling
- Scaling Down a Dynamic Cluster
- Script Interceptors
- Some FMW Commands
- Practice 6-1 Overview: Creating and Modifying a Domain with WLST
- Practice 6-2 Overview: Monitoring a Domain with WLST

7 RESTful Management Services

- Objectives
- Agenda
- What Is REST?
- WebLogic Server and REST
- What Can Be Monitored Using WebLogic REST?
- Clients and WebLogic REST
- Enabling REST Management
- Supported Representations
- REST Resource Access Roles
- WebLogic RESTful Interfaces
- REST Operations Flow
- Example: Returning Server Information Using cURL
- Typical REST Operations
- Common WebLogic REST Results
- WebLogic REST Error Handling
- Understanding WebLogic REST Requests

- WebLogic REST MBean Hierarchy
- WebLogic Legacy REST Resources
- WebLogic REST Response Bodies
- Example: Listing Server Information by Name
- Invoking Operations
- Create Forms
- Creating Resources
- Common Workflows
- Practice 7-1 Overview: Creating and Managing Servers Using REST

8 Secure Sockets Layer (SSL)

- Objectives
- Agenda
- What Is SSL?
- SSL Terminology
- Symmetric Encryption and Decryption
- Asymmetric Encryption and Decryption
- Digital Certificates
- Digital Certificate: Example
- Certificate Authorities
- SSL Communication
- One-Way SSL Handshake
- Two-Way SSL Handshake
- WebLogic and SSL
- Demo Certificates
- WebLogic SSL Requirements
- WebLogic SSL Connections
- Agenda
- What Is a Keystore?
- keytool Utility
- Working with a Keystore
- Configuring WebLogic Keystores
- Quiz
- Agenda
- Configuring SSL for WebLogic
- SSL and WebLogic Proxy Plug-Ins
- SSL and Hardware Load Balancers
- SSL and Oracle HTTP Server

9 Application Work Managers

- Objectives
- Agenda
- WebLogic Server Threads
- Monitoring a Server Thread Pool
- Monitoring Server Threads
- Stuck Thread Handling
- Configuring Stuck Thread Handling
- Application Stuck Thread Handling
- Work Managers
- Work Manager Scope
- Work Manager Architecture
- Request Classes
- Creating a Work Manager
- Creating a Request Class
- Constraints and Stuck Threads

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COURSE OUTLINE

- Creating a Constraint
- Work Manager WLST Example
- Work Managers and Stuck Threads
- Assigning Work Managers to Applications
- Practice 9-1 Overview: Creating and Using Work Managers

10 Working with the Security Realm

- Objectives
- Agenda
- Security Realm: Review
- Default Security Configuration
- Agenda
- How WebLogic Resources Are Protected
- Examples of WebLogic Resources to Protect
- Users and Groups
- Group Membership
- Roles
- Policies
- Configuring New Users
- Configuring New Groups
- Configuring Group Memberships
- Configuring New Roles
- What Is Role Mapping?
- Configuring Role Mapping
- Configuring Roles Using WLST
- Configuring New Policies
- Configuring Policies Using WLST
- Security Configuration Sources
- Configuring Sources Using WLST and weblogic.Deployer
- Deployment Descriptor Security Example: weblogic.xml
- Deployment Descriptor Security Example: web.xml
- Embedded LDAP Server
- Configuring the Embedded LDAP Server
- Practice 10-1 Overview: Creating Users, Groups, Roles, and Policies
- Auditing
- Sample Auditing Output
- Security Audit Events
- WebLogic Auditing Architecture
- Custom Versus Default Auditing Provider
- Creating the Default Auditing Provider
- Configuring the Default Auditing Provider
- Configuration Auditing

11 Disaster Recovery and Migration

- Objectives
- Agenda
- Disaster Recovery Concepts
- Site Symmetry
- Recommended Architecture
- General Best Practices
- Hosts File: Example
- Administration Server Review
- Impact of Administration Server Failure
- Backing Up a Domain Configuration
- Recovery of the Administration Server Configuration
- Restarting an Administration Server on a New Computer
- Java Transaction API (JTA) Review
- What Is Service Migration?
- Service Migration Prerequisites
- Service Migration Architecture: Database Leasing
- Service Migration Architecture: Consensus Leasing
- What Is a Migratable Target?
- Service Migration Policy Options
- Configuration Roadmap
- JTA Service Migration: Before Failure
- JTA Service Migration: After Failure
- Configuring JTA Service Migration
- Set Up Automatic JTA Service-Level Migration

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